file chem warfare

Robert Holloway

383 Tamarack Drive
Henderson, Nevada 89015
702-564-7301

Oct. 30, 1984

Dr. Matthew Meselson
Harvard University
Boston, Massachusetts

Dear Dr. Meselson:

I have just watched the NOVA show on "yellow rain". I tend to agree with you that it is probably natural. You may be interested in the following personal observation about pollen in rain.

From 1973 to 1976, I was a graduate student in chemistry at the University of Arkansas at Fayetteville. As a part of my research program, I collected rainwater to be used for radiochemical analyses. The precipitation was collected with permanent collecting pans located on top of the laboratory building. The area of the collecting pans was several square meters, so that even a very light shower of 0.1 inch would produce several gallons of water. During the three years, I remember several rains that contained very high concentrations of pollen. The pollen would float to the top and sometimes form a layer up to an inch thick in the collecting containers located below the sloping collection pans. Of course, the surface area of the final collection containers was much smaller than the area of the pans above but the fact remains that light showers can have very high concentrations of pollen. It can be high enough to be visible from several feet away even in the thoroughly mixed water.

Since then I have noticed pollen residue on the streets here in Nevada after a light shower. A necessary condition for this seems to be unusually high concentrations of pollen in the atmosphere combined with light rainfall of possibly a half inch or less. It probably goes undetected by most people because it is infrequent. It probably happened three or four times a year in Arkansas. However, when it does happen, the term "yellow rain" is a very accurate description. There may be some involvement of bees in Asia, but I don't think bees are necessary for rain to be yellow.

Sincerely Yours,
Robert Holloway
Robert Holloway, Ph.D.